RESOLUTION NO. 2017-37

A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, APPROVING THE PURCHASE OF AN EXHAUST REMOVAL SYSTEM FOR THE VILLAGE'S FIRE DEPARTMENT BY UTILIZING ANOTHER GOVERNMENTAL CONTRACT; PROVIDING FOR AUTHORIZATION; PROVIDING FOR IMPLEMENTATION; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Village of Key Biscayne ("Village") Fire Department (the "Department") is in need of an exhaust removal system ("System") to replace the existing system in the Department's apparatus room; and

WHEREAS, the Village Council finds that it is impractical to apply the Village's competitive bidding procedures for the purchase of the System as the type of purchase contemplated by the Village has already been competitively bid by the Broward Sheriff's Office under bid number 15034MFW, which was issued on or about April 24, 2015 ("BSO Bid"); and

WHEREAS, the BSO Bid resulted in a contract being awarded to Safe Air Corporation ("Safe Air"), which was executed on July 20, 2015, ("BSO Contract") and which Safe Air has agreed may be utilized by other governments for their own benefit; and

WHEREAS, the Village Council seeks to authorize the Village Manager to purchase the System from Safe Air by utilizing the BSO Contract pursuant to Section 2-86 of the Village Code; and

WHEREAS, the Village Council finds that adoption of this Resolution is in the best interest and welfare of the residents of the Village.

NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA AS FOLLOWS:

Section 1. **Recitals.** That each of the above-stated recitals are hereby adopted, confirmed, and incorporated herein.

Section 2. **Approval of Purchase.** The Village Council hereby approves the purchase of the System from Safe Air Corporation by utilizing the BSO Contract pursuant to Section 2-86 of the Village Code.

Section 3. **Authorization.** The Village Council hereby authorizes the Village Manager to negotiate and execute a contract to make the System purchase consistent with the proposal attached hereto as Exhibit "A" in an amount not to exceed $65,000.00, and to execute any related or necessary documentation on behalf of the Village, subject to approval by the Village Attorney as to form, content, and legal sufficiency.

Section 4. **Implementation.** The Village Council hereby authorizes the Village Manager to take any action which is reasonably necessary to implement the purpose of this Resolution.

Section 5. **Effective Date.** This Resolution shall be effective immediately upon adoption.

PASSED and ADOPTED this 29th day of August, 2017.

MAYOR MAYRA PEÑA LINDSAY

ATTEST:

JENNIFER DUQUE, CMC, VILLAGE CLERK

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY

VILLAGE ATTORNEY

EXHIBIT "A"

SafeAir Corporation

Air Filtration & Environmental Products

Key Biscayne Fire Rescue Dept. – 560 Crandon Blvd Key Biscayne FL. 33149

Qty. *5* - SafeAir Model FHAC-3000-ETL Air Cleaning Devices (ACD) –AER -5.1

- Multi-Pleat Pre-Filter Model XL11-HC 24"x 24" x 4" MERV 11
- Dura-Max 4v Model DM4V-981 24" x 24" x 12" MERV 16
- SafeAir Green Refillable Carbon/ Purifil / Zeolite Blend - Gas Phase Filter - 40 Lbs.
- Carbon Dust After-Filter Model XL8-HC 24"x 24" x 2" MERV 8
- HVAC Air Conditioning Coil Track for 5 Ton AC/ HP coil
- Dirty Filter Change Indicator Light –Red LED light with Real time email reporting
- Blower Motor Package 1HP- OTP - 115/208-230VAC 1ph
- Blower Automatic Start/Stop Relay Package-WD-ACD-24 volt
- CFM Capacity 2700-3000 CFM (based on filer package)
- 14-16 GA Welded Steel cabinet with internal drain for HVAC
- Four Way Adjustable louver to set station airflow patterns
- On / Off Tag Out /Lock Out OSHA Power Switch
- Color Red/White/Blue (please specify color when ordering)

Qty. *2*- Ventilation Exhaust Fan(s) for providing Outside Air as per IIC-2015 code

- Existing Exhaust Fan – 2000 CFM x 2 Estimated 4000 CFM and make up dampers
- Interface Relays for Ventilation Exhaust Fan (s) Type EFRS or Allen Bradly OLD -24 volt

Qty. *1*- Safe Air WD-4E-UL Electrical Control Box with SEND - Email Reporting

- NEMA 12 Enclosure with Safety Disconnect Switch
- Auto Start Transmitters VTK-2 for (5) Vehicles
- Carbon Monoxide Sensor - Real time with email reporting
- Nitrogen Dioxide Sensor - Real time with email reporting
- Motor Starter Controller for EF - 1
- Temperature Thermostat for EF -1 and EF-2 Exhaust Fan starting by Temperature
- Dirty Filter Alarm- Red LED Lifetime - Real time with email reporting
- 95Dba Alarm Horn for Audible Gas Alarm
- Strobe Light Tower for Visual Gas Alarm- Yellow/Red
- Email/ Text Dialer for 6 lifestyle and safety alarms (See Specs)
- Smoke Detector Alarm – Stand alone with Real time with email reporting
- Firefighter Push to Call for service with email reporting
- Loss of Power Alarm with Real time with email reporting

Qty. *1*- Mechanical Installation of Air Cleaning Devices (ACD's)

- Uni-Strut Mounting Hardware
- 2/0 Plated Chain or 3/8" Threaded Rod Mounting Supports (See Drawing)
- Core Drilling for wall penetrations for Exhaust Fans or Louvers
- Labor for Mounting ACD units

Qty. *1* - Electrical Installation of ACD's and EF 1 - 120/208-230v-1 Phase

- Electrical Conduit – Electrical Metal Tubing (EMT with Water-Tight Fittings)
- Electrical Sub Panel (IF) required for final connections
- High Voltage THHN Multi Strand Conductor Wire Sized for Load as per NFPA Code
- Electrical Panel Breakers – As pre the original panel Mfg. (AB-SD-Eton-Other)
- 24 Low Voltage Wiring in conduit for controls
- CAT 5 Wiring for Email reporting system (Open Port By Others)
- Labor for Electrical Wire and Install

Qty. *3* - Firefighter - SOP Training for all station personnel / A-C Shifts

Price for SafeAir Equipment -51,258.00
Price for Eng. Drawings and Electrical /Mechanical Installation -13,500.00
Total Cost Price - $64,758.00

Safe Air Corp FL~ P.O. Box 3077 ~Sarasota, FL 34230-3077 ~Fax: 941-955-0910
email: info@safeairco.com

COPE OF WORK FOR DIESEL EXHAUST EXTRACTION SYSTEM UTILIZING RECIRCULATING AIR CLEANERS , HIGH VOLUME EXHAUST FAN SYSTEM AND MANAGED BY CENTERL VENTILATION CONTROLLER.

The **Key Biscayne Fire Rescue** (**KBFR**) is sourcing an install for re-circulating ceiling mounted air cleaners and new high volume exhaust fans in its HQ station. The scope of work consists of providing **KBFR** with equipment, installation, service and monitoring. **The following is the scope of work for the project.**

The following are the minimum standards for the design, build, install

Air Cleaner Device (ACD's) – The air cleaner devices required shall be manufactured by a company that has produced industrial air filtration equipment for no less than 20 years. This requirement is equal to the projected life expectancy of the systems to be purchased. The ACD's shall be able to produce a minimum airflow through the unit of 2700 cfm with clean filters that are specified in the RFP here in. The ACD's will be tested prior to installation by a third party air balancing consultant that is certified by Associated Air Balance Council (AABC) and National Environmental Balancing Bureau (NEBB).

Air Exchange Rate (AER) – The air exchange rate (AER) for the apparatus bay area shall be no less than one air change every 8 minutes. The minimum standard must be calculated on the full area (L x W x H) of the apparatus bay. This means the full height of the area from finished floor to ceiling and the full width / length of area from wall to wall. The 8 minute AER shall be provided by the air cleaners alone and can not include any other exhaust fans, HVAC system air make up or exhaust volume. The total air change rate for the ACD's and the Exhaust fans shall be 4 minute AER / 16 air changes an hour and the system must run for a minimum of 4 air changes (18 minutes) on each start up and return to station. The system must also run both the ACD's and the Exhaust fans for as long as the vehicle is running in the apparatus bays with interruption.

Air Cleaner Device Construction – The ACD's shall be manufactured for long life as an industrial quality product that is a minimum of 16 gauge welded zinc coated steel cabinet finished with two coats of two part chemical and oil resistant paint in the color of red. The cabinet shall have the ability to have ductwork added to the inlet and outlet as an option. Note: A drawing of this option must be part of RFP.

Filter Access and Holders – The ACD's filter access shall be by a hinged side door that allows for easy removal of filter elements by service technician or city employee. The filter shall be retained by a filter track that will not allow for air to by pass filter elements that are under pressure from particulate accumulation as the filter becomes dirty. Filter tracks must have track and seal design to meet the maximum pressure drop of all filters when dirty as per filter manufacturer

specifications for recommended final pressure drop in inches water gauge. Note: Filters that stack or do not slide into filter track will be rejected.

Filter Element Arrangement and Efficiency – The filters listed in this RFP are the minimum type, quality and efficiency that will be allowed in all air cleaning devices offered. There will be no substitution from filter types outlined below:

1. ***Pre-Filter*** - shall be the first filter that addresses the incoming airflow. It shall be a minimum of 24" x 24" x 4" standard manufactured pleat filter for high capacity with 28 sq. ft. of media and a MERV-11 rating. The pressure drop of filter shall be .24" wg at 2500 cfm with clean filter.

2. ***Primary Filter*** - shall be a second filter that addresses the incoming airflow. It shall be a minimum of 24" x 24" x 12" standard manufactured HEPA style filter / high efficiency extended surface mini-pleat filter with 194 sq. ft. of media and a MERV-14 rating. The pressure drop of the filter shall be .36" wg at 2500 cfm with clean filter.

3. ***Gas/Odor Adsorption Filter*** - shall be the third filter that addresses the incoming airflow and shall be a minimum of 24" x 24" x 12" overall and be filled with a combination blend of activated carbon blend that is designed for adsorption of diesel exhaust gases and odors, i.e. Nitro Dioxide, Sulfur Dioxide and Benzene in their gas phase. The Carbon blend shall be housed in a two part refillable housing that holds a total of 60 lbs. of media. The pressure drop of the filter shall be .74" wg at 2500 cfm.
   Note: Carbon filter elements that have throwaway housings will not be allowed do to environmental impact.

4. ***After Filter*** - shall be a fourth filter that addresses the incoming airflow and shall be a minimum of 24" x 24" x 2" standard manufactured pleat filter with 14 sq. ft. of media and a MERV-8 rating. The pressure drop o f the filter shall be .24" wg at 2500 cfm clean filter. This shall be required to catch any carbon dust that may be blown off carbon media module.

Dirty Filter Alarm - The ACD's shall be equipped with a pressure differential switch that activates an LED indicator light that can be viewed from floor mounted in the ACD's and on the Central Ventilation Controller (CVC) outlined below. This switch shall be hard wired to the control box and indicate when a filter needs to be changed due to a dirty filter condition based on total pressure drop across the unit. The pressure switch shall be adjustable for the outside of unit, with a range from 1 - 4" wg SP. Needle type pressure gauges mounted to the units will not be an accepted alternative to the indicator light system.

PCO / UV Light System – The ACD's shall be equipped with a PCO/UV light system that will be UL listed and supply Advanced Hydrated Photo catalytic

oxidation (AHPCO) for and area of no less than 3000 SF of area per unit. The PCO/ UV system shall reduce VOC's, mold, bacteria, viruses and Aeroallergens. The PCO/UV unit must be serviced from outside the ACD's cabinet and have LED service lights that will indicate the operating condition of the unit. The PCO/UV unit must have Adjustable UV shield to direct the light path across airflow and to direct away from filters elements. The unit must not Produce more then .o5 ppm of Ozone and be energy efficient with a power draw 45 watts or less at 24vac input power.

HVAC Track option – The ACD's must be Equipped with a HVAC track that will fit a HVAC coil to make the ACD's ready for future air conditioning option, that will make the unit capable of upgrade to a AC split system of 5 tons. Track shall be on clean air side of filters and have no more the 500 fpm coil velocity.

ACD Air Handling Blower – the ACD's airflow blower shall be capable of producing a minimum of 2700 cfm at .85" wg with clean filters and maintain the air flow volume of 2500 until 1.5" wg with dirty filter load is achieved. The Blower shall be direct drive one (1) Horse Power and be upgradable to a higher output blower to handle higher static pressures (5"wg) or airflows volumes to (3000 cfm) if we wishes to upgrade to HVAC option.

ACD Electrical Supply and Controls – The ACD's shall have electrical supply voltage of 120-208-240V, 1PH and have a Tag Out / Lock Out switch to turn off and kill power to the ACD's unit. The ACD's shall be controlled with an auto start control box that starts all the air cleaner devices when the vehicle's engine is started. The control box shall have a motor starter with overload protection that starts the system at the same time the engine is started and maintain the blower running for as long as the engine is running in the station. The electrical system for the ACD's shall interface with a carbon monoxide detection system provided in this RFP. The ACD's system and the carbon monoxide system must work together to start both the blowers of the air cleaner devices and the central exhaust fan(s) in the fire station garage at the same time the engines are started. Note: Controls that are not interfaced with the vehicles will be rejected.

ACD Cabinet Weight With Filters – the ACD's cabinet with filters installed shall weigh approx. 400 lbs. total hanging weight.

Central Ventilation Controller (CVC) - The purpose of the Central Ventilation controller is to control up to three different sets of blowers (blowers/filters) for the purpose of maintaining the highest air quality in the firehouses, garage facilities and living areas. The CVC shall auto start on the starting of any vehicle that is equipped with a transmitter and be running when the vehicle is returning to the station and prior to entry to the station. The CVC will also monitor external gas sensors and display a visual and audible alarm should a toxic threshold level of gasses be detected. The system shall also have a remote alarm system that will

email or text up to eight (8) persons, six (6) Key Alarms Messages that will be, loss of power, toxic gas, dirty filters, fire / smoke, temperature, exhaust fan flow.

Components - The control unit shall consist of a key-lockable NEMA4X fiberglass control enclosure which houses a 24VAC control transformer, microprocessor based circuit board, radio receiver, a backup battery and miscellaneous fuses, terminals, etc. Located on the outside of the enclosure Shall be a self-adhesive membrane keypad/indicator overlay with all indicators and buttons, a stack light/alarm with yellow and red indicators and a 94db alarm horn. The control box will maintain UL508A approval and have a UL/ETL Seal.

Auto Start Transponder – The Control system must be started by a vehicle transponder that will be able to start the ACD units and all exhaust fans and blowers when the vehicle is energized or started. The transponder shall keep the systems running for as long as the vehicles are running and shall restart the systems when the Vehicles return to station. The transponder must plugin to standerd power plug or USB plug that is supplied by truck Mfg. Transponder that have to be wire in to electric system of truck will be rejected.

Functionality - The system shall have the ability to monitor/control multiple System Blowers and alarming functions:

Source capture fan control (EF-1) for Future - The purpose of EF-1 is to ventilate vehicle exhaust gasses to atmosphere, drawn directly from the vehicle exhaust pipe, via a source capture hose. Each vehicle shall have a radio transmitter in it which will activate when the vehicle is started. Upon sensing the vehicle being started, this blower will activate. The blower will operate continuously while the vehicle is running and for an adjustable number of minutes after the vehicle is turned off or leaves the vicinity (500' radius) of the control box. The adjustment will be via a potentiometer on the circuit board and shall be 1 to 5 minutes. There shall also be an elapsed time meter, located on the circuit board, which will log the runtime (in hours) of the EF-1 blower unit only. This meter shall be 4 digits (up to 9999 hours) and resettable via a small pushbutton located next to the meter/display.

The receiver, located inside the control enclosure, shall be powered by 24VAC. There will be two wires from the receiver to our circuit board which signals the receiver has picked up an input from a vehicle transmitter.

There shall be a set of "Remote Start" terminal blocks on the circuit board which allows EF-1 to be started by a remote dry contact from any outside source. This functionality shall only be active while EF-1 in is in AUTO mode and will start when the remote signal is received and will stop immediately upon losing this signal.

There shall also be an LED on the circuit board indicating when the blower is running.

There shall be one temperature sensor located inside the source capture work system, which will be hardwired back to the control box. The intent of this sensor is to monitor the temperature of the exhaust gasses passing through the hose/ductwork. The maximum gas temperature will be recorded on a meter located on the circuit board and is resettable via a small pushbutton located next to the display.

Operators on the control for EF-1 shall include a button which toggles through OFF/AUTO/ON and an indicator which indicates the blower is running.

General ventilation Fan Control (EF-2) - A second "through the wall" Exhaust Fan shall draw air/heat/humidity from within the facility to atmosphere. The purpose of this blower is threefold. First it will run whenever a signal from a radio transmitter, located in any vehicle, is present. The adjustable time-out period, however, will be independent of EF-1 and EF-3 and will be via another potentiometer on the circuit board. The range of this time-out is 5 to 30 minutes.

This blower shall also be started by a dry contact input which will be provided by a thermostat. The intent is if it gets too hot in the building, the thermostat will activate EF-2 to draw the hot/humid air out of the building to meet Code. This blower will stop immediately upon seeing the signal from the thermostat open.

The third function is to draw exhaust gasses out of the building, as detected by CO/NO2 sensors (see below). When a "low level" or "danger level" of exhaust gasses are detected, this blower will activate and continue to run for an adjustable number of minutes after the signal is removed. This range shall be the same 5 to 30 minutes described above.

There shall also be an elapsed time meter, located on the circuit board, which will log the runtime (in hours) of the EF-2 blower unit only. This meter will be 4 digits (up to 9999 hours) and resettable via a small pushbutton located next to the meter/display.

There will be a set of "Remote Start" terminal blocks on the circuit board which allows EF-2 to be started by a remote dry contact from any outside source. This functionality will only be active while EF-2 in is in AUTO mode and will start when the remote signal is received and will stop immediately upon losing this signal.

There shall also be an LED indicator on the circuit board to signal when the blower is running.

Operators on the control for EF-2 will include a button which toggles through OFF/AUTO/ON and an indicator which indicates the blower is running.

Air Cleaning Device Fan Control (EF-3) - The third blower(s) will be Air Cleaning Devices or filter units, mounted in bays or living area, which will circulate and filter/condition the air within the facility. There can be as many ACD units as the desires, but all will be controlled by one RUN signal from the circuit board.

The purpose of this unit is to filter and/or cool the air within the facility. This blower shall run whenever a signal from a radio transmitter, located in any vehicle, is present. The adjustable time-out period, however, shall be independent of EF-1 and EF-2 and will be yet another potentiometer on the circuit board (for a total of 3). The range of this time-out is also 1 to 30 minutes.

There shall also be an elapsed time meter, located on the circuit board, which will log the runtime (in hours) of the EF-3 filter units only. This meter will be 4 digits (up to 9999 hours) and resettable via a small pushbutton located next to the meter/display..

Control wiring for this blower shall require a 4 conductor cable which is a 24VAC "RUN" signal coming from the circuit board and two wires for a "Filter Dirty" signal going back to the circuit board. Both these signals shall be wired in parallel with like signals from filter unit to filter unit. Power wiring for the filter will come into the ACD Unit, through the contactor and then to the blower motor. The purpose of the dirty filter signal is to illuminate an indicator light on the control panel. It will not affect the functionality of the filter unit and all pressure switches will be wired in parallel. The purpose of this indicator is to alert the operator to inspect each filter unit for a dirty filter condition.

There shall be a set of "Remote Start" terminal blocks on the circuit board which allows EF-3 to be started by a remote dry contact from any outside source. This functionality will only be active while EF-3 in is in AUTO mode and will start when the remote signal is received and will stop immediately upon losing this signal.

There shall also be an LED indicator on the circuit board to signal when the blower should be running.

Operators on the control panel for EF-3 will include a button which toggles through OFF/AUTO/ON and an indicator which indicates the blower is running. In addition, there shall be a Filter Start button that will start the filter units and it will run for the time period set with the potentiometer. The Filter Start button will only be functional when the OFF/AUTO/ON button is in the AUTO mode.

Gas Monitoring (CO/NO2) - Separate gas monitoring devices shall be hardwired into the circuit board for the purpose of activating only EF-2 (as described above) and to activate the yellow and/or red beacons and the alarm horn. The signals for the beacons and alarm horn will be a relay closure from the gas sensors,

therefore a constant input, but the indicator lights and alarm horn on the stack light will flash/sound. The email/text alarm system will sent a message to the monitors for this signal.

Operation of the beacon (Stack Light) - A yellow light shall flash if a low level of toxic gas is detected. A red light shall flash and alarm horn will Sound if a high level of toxic gas is detected.

Power Loss Indication - A battery backup system shall be incorporated into the control box which shall cause an alarm horn to activate. This will happen whenever a power loss is detected. The power loss alarm shall operate for a minimum of 10 minutes after losing power. The email/text alarm system will sent a message to the monitors for this signal.

Fire/Smoke detection – the controller shall have a fire / smoke detector to turn off the blowers in the event of a station fire. This shall meet NFPA /Florida fire code. The fire detector will also send an email/text alarm message to the monitors for this signal.

High Temperature - The controller shall have thermostat that will read room temperature and start exhaust fans for cooling. The thermostat will also send an email/text alarm message to the monitors for this signal if the Temp goes over a set point.

Exhaust Fan Flow – The controller shall have an airflow sensor that will read the airflow movement of the exhaust fan and if airflow is not detected an email/text alarm message will be sent to the monitors for this signal.

Auxiliary Function - The controller shall be shipped with a key-fob transmitter with 4 function buttons. Button 1 will be used to active blowers EF-1 through EF-3. The 2-4 buttons can be used as an auxiliary function and will activate dry contact relays located inside the control box. These relays can be used for many auxiliary functions, such as overhead door operation or traffic light activation, for example.

Exhaust Fans and Make Up Air – The stations shall have or be provided with an exhaust fan(s) and make air that will provide a minimum of 2 cfm per square foot of garage area. This exhaust fans must be tied to the CO/NO2 toxic gas detectors.

Installation of System – The installation and mounting of the system must be in accordance to all mechanical and electrical building codes. The hanging of ACD units shall not interfere with fire equipment, sprinklers, garage doors, or HVAC systems. The hanging of ACD units must be by steel strut or concrete anchors which are approved by building code department or pre-engineered by approved Florida certified public engineer in design.

Warranty – Warranty shall be (5) years on all equipment and labor.